

AMENDMENTS TO THE CLAIMS

1. (currently amended) A semiconductor device assembly comprising:
a solder mask over a substrate;
a die;
conductive paths connecting contacts on said die with contacts in said substrate;
and
a layer comprising at least one partially-cured adhesive ~~layer~~ adhering said die to said solder mask, said partially-cured adhesive ~~layer~~ comprising one or more adhesive components that can cure at a temperature above ambient and at or below 100°C.

2. (currently amended) The semiconductor device assembly of claim 1, wherein said partially-cured adhesive ~~layer~~ is at least fifty percent cured.

3. (previously presented) The semiconductor device assembly of claim 1, further comprising an encapsulant molded over the assembly.

Claims 4 and 5. (canceled)

6. (currently amended) The semiconductor device assembly of claim 1, wherein said partially-cured adhesive ~~layer~~ comprises a material with a glassy temperature between about 5°C and about 20°C.

7. (currently amended) The semiconductor device assembly of claim 6, wherein said partially-cured adhesive ~~layer~~ comprises bismaleimide.

8. (currently amended) The semiconductor device assembly of claim 7, wherein said layer of partially-cured adhesive ~~layer~~ consists essentially of bismaleimide.

9. (currently amended) The semiconductor device assembly of claim 1, wherein said partially-cured adhesive ~~layer~~ comprises initiators which react at a temperature below about 100°C.

10. (canceled)

11. (previously presented) The semiconductor device assembly of claim 1, wherein said contacts are substantially free of contaminants outgassed from said solder mask.

12. (currently amended) A semiconductor device assembly comprising:
a solder mask on a substrate;
a die;

electrical contacts on said substrate and said die, each said contact on said die being connected to a respective said contact on said substrate, said electrical contacts being devoid of contamination caused by outgassing from said solder mask; and

a layer comprising a partially-cured adhesive ~~layer~~ affixing said die to said solder mask, said partially-cured adhesive ~~layer~~ containing one or more adhesive components that have curing temperatures above ambient and cure at or below 100°C.

13. (canceled)

14. (currently amended) The semiconductor device assembly of claim 12, wherein said partially-cured adhesive ~~layer~~ is about fifty percent cured.

15. (canceled)

16. (currently amended) The semiconductor device assembly of claim 12, wherein said partially-cured adhesive ~~layer~~ comprises a material with a glassy temperature between about 5°C and about 20°C.

17. (currently amended) The semiconductor device assembly of claim 16, wherein said layer of partially-cured adhesive ~~layer~~ comprises bismaleimide.

18. (currently amended) The semiconductor device assembly of claim 16, wherein said layer of partially-cured adhesive ~~layer~~ consists essentially of bismaleimide.

19. (currently amended) The semiconductor device assembly of claim 12, wherein said partially-cured adhesive ~~layer~~ comprises initiators which react at a temperature below about 100°C.

20. (previously presented) The semiconductor device assembly of claim 12, wherein said contacts remain relatively free of contaminants released by outgassing from the solder mask during a cure process.

Claims 21-32. (canceled)

33. (currently amended) The semiconductor device assembly of claim 1, wherein the partially-cured adhesive ~~layer~~ is about 50% cured.

34. (currently amended) The semiconductor device assembly of claim 1, wherein the partially-cured adhesive ~~layer~~ includes a resin bismaleimide.

35. (currently amended) The semiconductor device assembly of claim 12, wherein the partially-cured adhesive ~~layer~~ is at least 50% cured.

36. (currently amended) The semiconductor device assembly of claim 12, wherein the partially-cured adhesive ~~layer~~ includes a resin bismaleimide.

37. (previously presented) The semiconductor device assembly of claim 1, wherein the subsequent package assembly processing includes wire bonding.

38. (currently amended) The semiconductor device assembly of claim 12, wherein each said contact on said die is connected to said respective said contact on said substrate using the conductive paths are wire bonds.

39. (currently amended) The semiconductor device assembly of claim 1, wherein said partially-cured adhesive ~~layer~~ has adhesive strength sufficient to hold said die to said solder mask during subsequent package assembly processing selected from the group consisting of encapsulation, solder reflow, and testing.

40. (currently amended) The semiconductor device assembly of claim 12, said partially-cured adhesive ~~layer~~ having adhesive strength sufficient to hold said die to said solder mask during subsequent package assembly processing selected from the group consisting of encapsulation, solder reflow, and testing.

41. (new) The semiconductor device assembly of claim 1, wherein said adhesive layer contacts mutually facing surfaces of said die and said solder mask.

42. (new) The semiconductor device assembly of claim 1, wherein said one or more adhesive components includes uncured component material.

43. (new) The semiconductor device assembly of claim 1, wherein said one or more adhesive components includes partially cross-linked component material.

44. (new) The semiconductor device assembly of claim 1, wherein said layer is more impervious to effects of outgassing than said layer would be with said partially-cured adhesive being uncured.

45. (new) The semiconductor device assembly of claim 44, wherein said effects of outgassing include voids capable of trapping moisture formed in said layer.

46. (new) The semiconductor device assembly of claim 12, wherein said adhesive layer contacts mutually facing surfaces of said die and said solder mask.

47. (new) The semiconductor device assembly of claim 12, wherein said one or more adhesive components includes uncured component material.

48. (new) The semiconductor device assembly of claim 12, wherein said one or more adhesive components includes partially cross-linked component material.

49. (new) The semiconductor device assembly of claim 12, wherein said layer is more impervious to effects of outgassing than said layer would be with said partially-cured adhesive being uncured.

50. (new) The semiconductor device assembly of claim 49, wherein said effects of outgassing include voids capable of trapping moisture formed in said layer.